

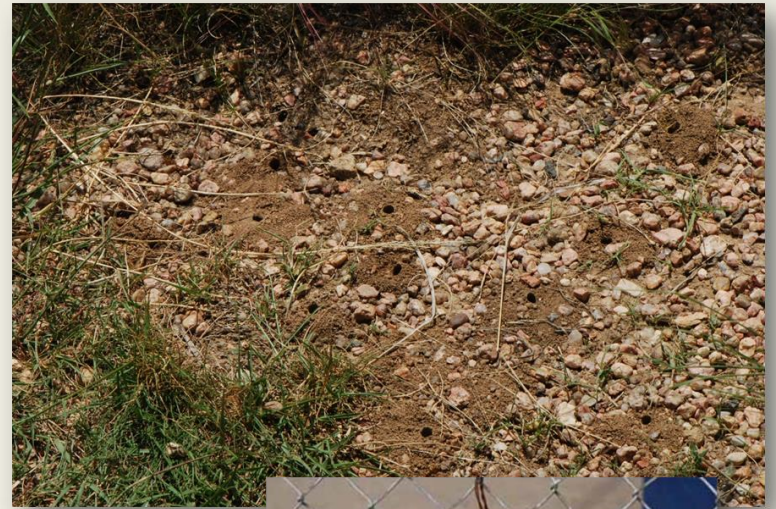


Helpful Identification Guide To The Flowers In The Bee Feed Mix And The Pollinators You Might See On Them

Home Pollinator Gardens

Pollinator Habitat Basics

1. Provide food resources = flowers that provide nectar and pollen. Include early, mid and late bloomers so that there are flowers available from spring through fall. A wide range of flower colors, sizes and shapes help to attract a wider diversity of pollinators.
2. Provide ground nesting sites, twig bundles and pieces of old wood. Avoid soil disturbances such as excessive digging and tilling.
3. Avoid using pesticides that are harmful to insects (neonicotinoids and other insecticides).

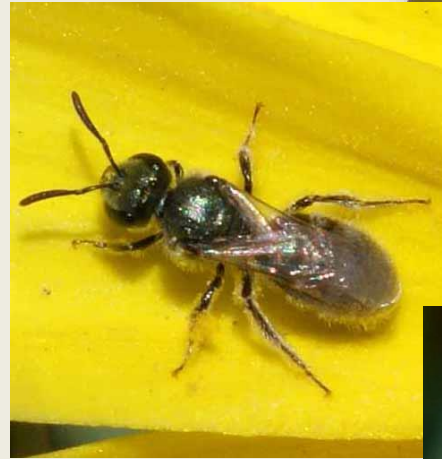


Typical nesting sites for ground, twig and wood dwelling bees.

How to identify the bees in your garden:

Sweat Bees (Halictidae)

- Sweat bees get their name from being attracted to sweat on people's skin.
- Solitary bees are striped with long slender bodies, commonly seen in summer.
- They have short tongues & prefer flowers with short nectar access.
- They build their nests in the ground.
- Females have pollen-collecting hairs on their hind legs.



Metallic Green Bee

Plasterer Bees & Masked Bees (Colletidae)

- This is a very small family of solitary bees that build nests in the ground or in crevices. Not likely to occur at very high elevations.
- Plasterer bees are also called polyester bees because they line their nests with a cellophane-like secretion that makes their nests waterproof.
- They have short tongues and are typically seen foraging in summer for a short time.
- Masked Bees have white or yellow markings on their face & bodies and lack pollen carrying structures. They carry it in their crop (internal pouch).

Plasterer Bee



Masked Bee



Leafcutter, Mason Bees & Allies (Megachilidae)

- Leafcutter bees are long-tongued, solitary bees that use leaves & petals in their nest construction while Mason bees use mud for nest construction. Most nest in holes in wood or hollow twigs.
- Females have a pollen brush (abdominal scopa) on the underside of their abdomen and are very effective pollinators.
- Includes Blue Orchard Bee, an important pollinator of many orchard tree crops.

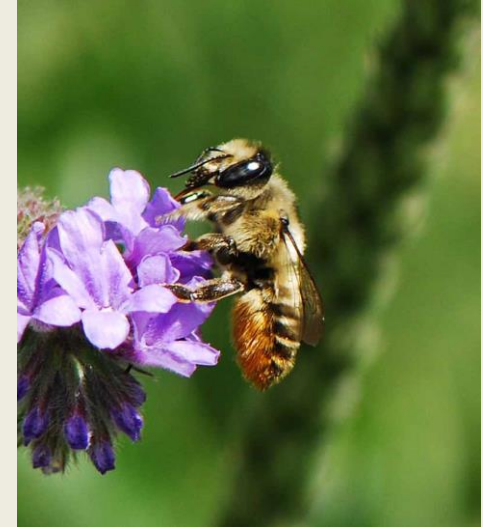
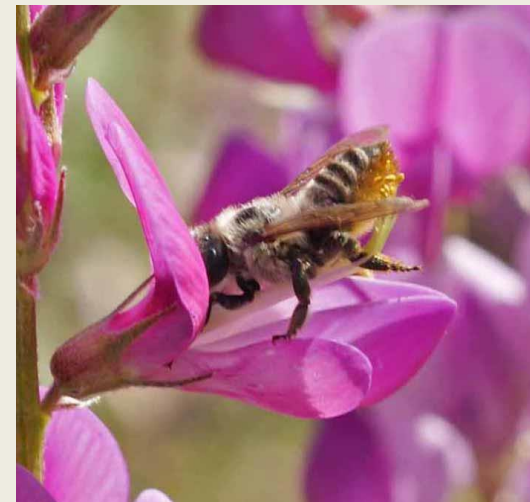


Image showing the scopa (pollen brush)



Mining Bees (Adrenidae)

- Mining bees are short-tongued, solitary bees that nest underground.
- Many species are active in spring and can be found on flowering trees & shrubs.
- Members of the genus, *Andrena*, have 2 hairy grooves on the inside of the eyes, which makes them easy to spot.
- Adults live for only about one month or so.



Bumble Bees (Apidae)

Bumble bees are social bees that live in colonies in abandoned rodent dens, crevices, tree cavities or under tussocks of grass. They are large bees with hairy bodies and varying shades of black, orange, yellow and/or red. Bumble bees forage on a wide range of flower shapes and sizes.



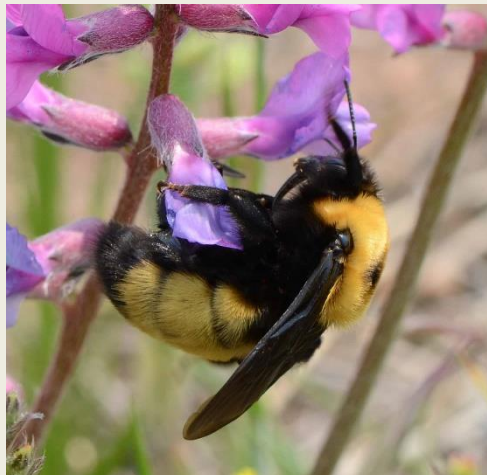
Hunt's Bumble Bee
(*Bombus huntii*)



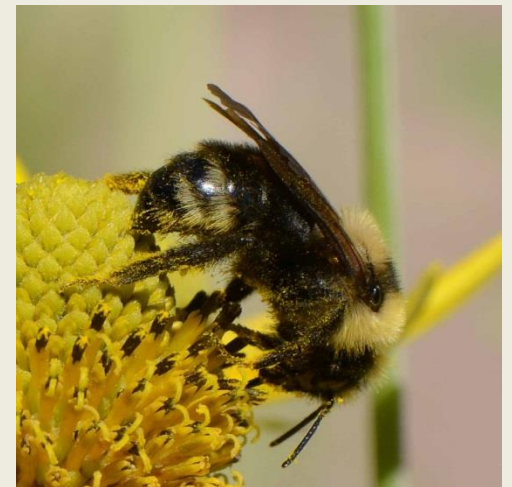
Brown-belted Bumble Bee
(*Bombus griseocollis*)



Golden Northern Bumble
Bee (*Bombus fervidus*)



Nevada Bumble Bee
(*Bombus nevadensis*)



Cuckoo Bumble Bee
(*Bombus insularis*)

Honey Bees (Apidae)



Honey bees are non-native, social bees and are managed by apiculturists to handle pollination services and to obtain honey. They were originally brought to North America by early colonists. Feral colonies can be found in tree cavities or hollow spots in buildings.

Cuckoo Bees (Apidae)

Cuckoo bees are parasites of other bees. They lay their eggs in the nests of their host species and allow them to provision their young. For this reason, cuckoo bees do not have pollen carrying structures and no nest making capabilities. They don't have many hairs on their bodies, which makes them easy to confuse with wasps.



Carpenter & Digger Bees (Apidae)

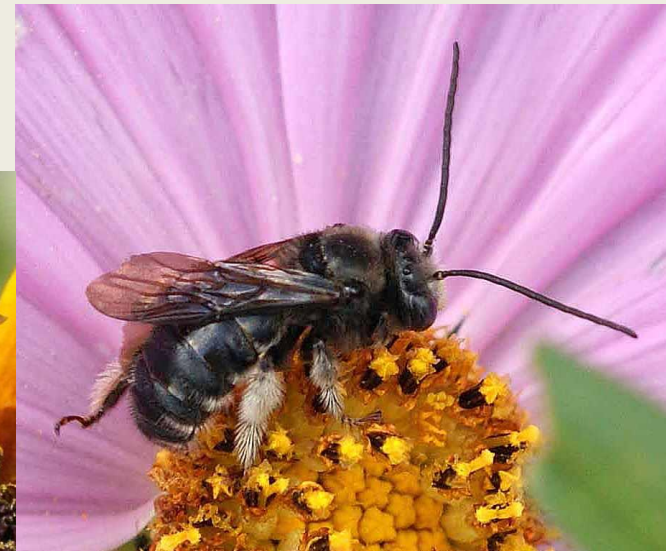
- Carpenter bees are solitary bees that build their nests by tunneling into trees, wood or even wooden structures such as houses.
- Digger bees have long tongues and dig tunnels in the ground for nesting. Long-horned bees are in this group.



Small Carpenter Bee and Large Carpenter Bee



Digger Bee – *Anthophora* sp.



Long-Horned Bees – only males have the long antennae

Other Flower Visitors That Are Not Bees:

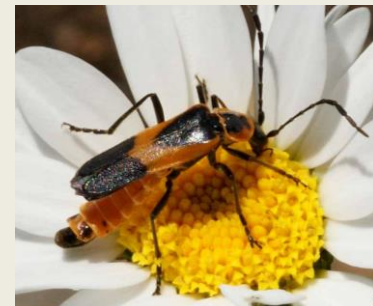
- Wasps – there are social wasps and solitary wasps. Pollen wasps feed their larvae exclusively with pollen and nectar, much like solitary bees.
- Flies – flies can be effective pollinators and are especially important in arctic and alpine environments. Syrphid, Tachinid, Muscid and Bee Flies are the most common fly visitors.
- Butterflies, Skippers & Moths – these utilize nectar as a food source and sip it through a long tube called a proboscis.
- Beetles – some beetles feed on the nectar or pollen of flowers but may not be efficient at pollinating. Longhorn and Soldier Beetles are typical flower visitors.

Pollen Wasp –
*Pseudomasaris
vespoides*



Tachinid Fly

Common
Checkered
Skipper



Soldier
Beetle

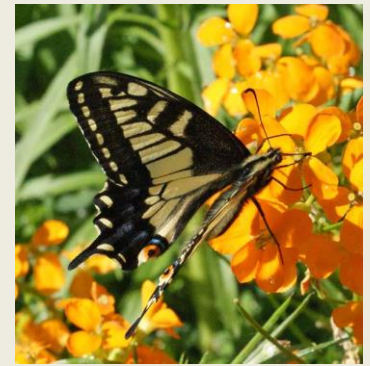
Who likes the flowers in the Bee Feed Mix?

Siberian Wallflower
(*Cheiranthus allionii*) →

Early blooming, attracts honey bees, bumble bees, butterflies, sweat bees and syrphid flies.



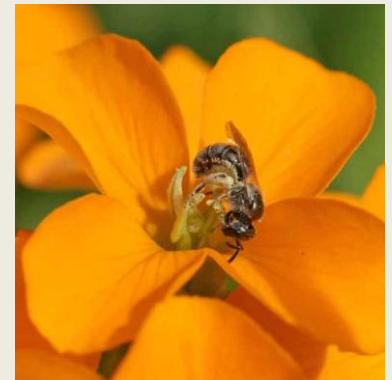
Hunt's Bumble Bee



Swallowtail
Butterfly



Sweat Bees



↑ Baby Blue Eyes (*Nemophila menziesii*)

Spring blooming annual, attracts honey bees, mining bees and syrphid flies.



Syrphid Fly



Sulphur Butterfly



Leafcutter Bee



Carpenter
Bee



Long-horned Bee

← Fleabane Daisy (*Erigeron speciosus*)

Early blooming perennial that attracts sweat bees, leafcutter bees, small carpenter bees, long-horned bees, and flies.



Thick-headed Fly

Sweet Alyssum (*Lobularia maritima*) →

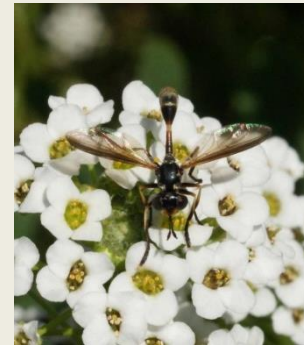
This quick-blooming flower is a magnet for syrphid flies. Also attracts small bees and tachinid flies and sometimes honey bees.



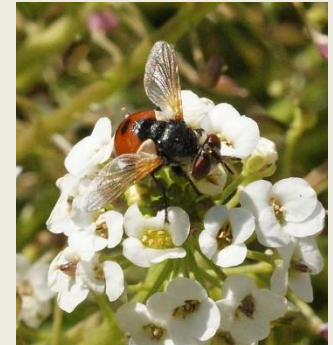
Masked Bee



Sweat Bee



Thick-headed Fly



Tachinid Fly



Leafcutter Bee

← Blue Flax (*Linum perenne*)

Blue Flax is an early summer bloomer that attracts sweat bees and leafcutter bees.



Sweat Bee



Cutworm
Wasp



Metallic Green
Bee

← Plains Coreopsis (*Coreopsis tinctoria*)

This long blooming annual attracts sweat bees and other small-tongued bees as well as tachinid flies, flower beetles and wasps.

Lance-Leaved Coreopsis (*Coreopsis lanceolata*) →

This early summer bloomer attracts a wide range of native bees, honey bees, flower beetles, wasps and flies.

↓ California Poppy (*Eschscholzia californica*)

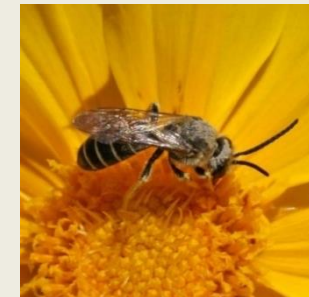
California Poppies provide pollen to honey bees, sweat bees and other solitary bees.



Honey Bee



Leafcutter Bee



Sweat Bee



Syrphid Fly



Sweat Bee



Honey Bee gathering pollen



Potter Wasp



Soldier Fly



Sweat Bee



Honey Bee



Green Sweat
Bee

←Globe Gilia(*Gilia capitata*)

This blue annual attracts honey bees, sweat bees and syrphid flies.

Tidy Tips (*Layia platyglossa*) →

This cheery annual attracts honey bees, sweat bees, mining bees, and syrphid flies.



Mining Bee



Sweat Bee

↓Corn Poppy (*Papaver rhoeas*)

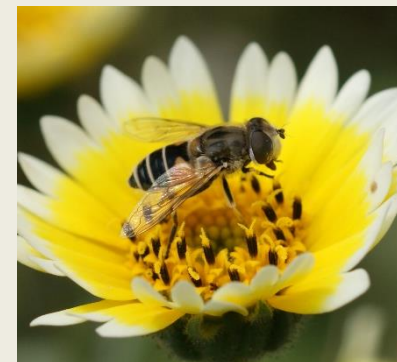
Corn Poppies are annuals that provide pollen to many types of bees.



Green Sweat Bee



Green Sweat Bee



Syrphid Fly

Honey Bees gathering pollen



Hunt's Bumble Bee



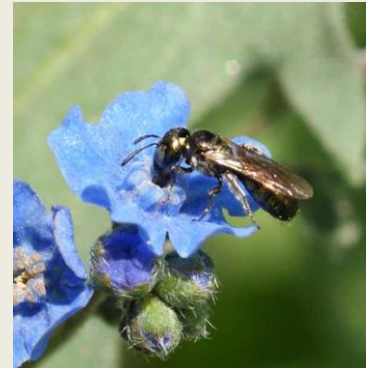
Honey Bee



Sweat Bee



A honey bee



Small Carpenter Bee



Sweat bee

Chinese Forget-Me-Not (*Cynoglossum amabile*) →

This long-blooming annual attracts mostly short-tongued bees such as sweat bees and small carpenter bees. Honey bees also visit the flowers.



Green Sweat Bee



Leaf-cutter Bee



Honey bee and
Sweat Bee



Cuckoo Bee



Long-horned
Bee

← Indian Blanket (*Gaillardia pulchella*)

This summer blooming annual attracts honey bees, sweat bees, long-horned bees, leafcutter bees, cuckoo bees and flies.

↓ Purple Coneflower (*Echinacea purpurea*)

This perennial blooms mid-summer and attracts bumble bees, honey bees, sweat bees, leafcutter bees, beetles and many types of butterflies.



Monarch Butterfly



Bumble Bees love
purple coneflower



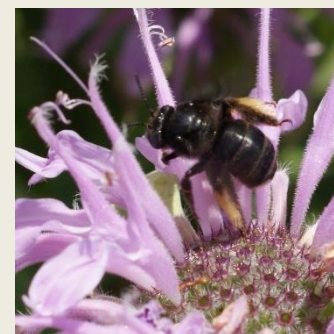
Skipper



Digger Bee



Bumble Bee



Long-horned Bee

↑ Bergamot (*Monarda fistulosa*)

This mid to late summer bloomer attracts honey bees, bumble bees, long-horned bees, skippers and digger bees.



Bumble Bee



Honey Bee



A honey bee



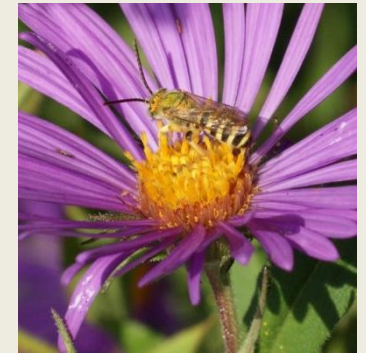
Leafcutter Bee

↑ China Aster (*Callistephus chinensis*)

This mid to late season annual attracts honey bees, bumble bees, sweat bees and syrphid flies. Flower moths & beetles are occasional visitors.



Long-horned Bee



Metallic Green Bee

New England Aster (*Aster novae-angliae*) →

This late blooming perennial is a magnet for honey bees. It also attracts sweat bees, small carpenter bees, long-horned bees, and leafcutter bees.



Small Carpenter Bee

